Textbook Alignment to the Utah Core – 7th Grade Integrated Science

This alignment has been completed using an "Independent Alignment Vendor" from the USOE approved list (**www.schools.utah.gov/curr/imc/indvendor.html**.)   *Yes* **N/A**   *No* **N/A**

Name of Company and Individual Conducting Alignment:
No approved Independent Alignment Vendor required for this correlation

A "Credential Sheet" has been completed on the above company/evaluator and is (Please check one of the following):

☐ **On record with the USOE.**

☐ **The "Credential Sheet" is attached to this alignment.**

Instructional Materials Evaluation Criteria (name and grade of the core document used to align): Seventh Grade Integrated Science

Core Curriculum

_____

Title: Science Explorer: Life Science © 2007   **ISBN#: 0-13-201243-X (SE); 0-13-201245-6 (TE)**

Publisher: Pearson Publishing as Prentice Hall_____

Overall percentage of coverage in the *Student Edition (SE) and Teacher Edition (TE)* of the Utah State Core Curriculum:
         57%

Overall percentage of coverage in *ancillary material*s of the Utah Core Curriculum: 52%

STANDARD I: Students will understand the structure of matter.	

	Percentage of coverage in the *student and teacher edition* for Standard I: <u>6</u> %	Percentage of coverage not in student or teacher edition, but covered in the *ancillary material* for Standard I: <u>0</u>%		
OBJECTIVES & INDICATORS	**Coverage in *Student Edition(SE)* and *Teacher Edition (TE)* (pg #'s, etc.)**	**Coverage in *Ancillary Material* (titles, pg #'s, etc.)**	*Not covered in TE, SE or ancillaries* ✔	
Objective 1.1: Describe the structure of matter in terms of atoms and molecules.				
a.	Recognize that atoms are too small to see.			
b.	Relate atoms to molecules (e.g., atoms combine to make molecules).			
c.	Diagram the arrangement of particles in the physical states of matter (i.e., solid, liquid, gas).			
d.	Describe the limitations of using models to represent atoms (e.g., distance between particles in atoms cannot be represented to scale in models, the motion of electrons cannot be described in most models).			
e.	Investigate and report how our knowledge of the structure of matter has been developed over time.			
Objective 1.2: Accurately measure the characteristics of matter in different states.				
a.	Use appropriate instruments to determine mass and volume of solids and liquids and record data.			
b.	Use observations to predict the relative density of various solids and liquids.			

OBJECTIVES & INDICATORS	Coverage in *Student Edition(SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries ✔*
c. Calculate the density of various solids and liquids.			
d. Describe the relationship between mass and volume as it relates to density.			
e. Design a procedure to measure mass and volume of gases.			
Objective 1.3: Investigate the motion of particles.			
a. Identify evidence that particles are in constant motion.			
b. Compare the motion of particles at various temperatures by measuring changes in the volume of gases, liquids, or solids.			
c. Design and conduct an experiment investigating the diffusion of particles.	**SE/TE**: 81		
d. Formulate and test a hypothesis on the relationship between temperature and motion.			
e. Describe the impact of expansion and contraction of solid materials on the design of buildings, highways, and other structures.			
STANDARD II: Students will understand the relationship between properties of matter and Earth's structure.			
Percentage of coverage in the *student and teacher edition* for Standard II: **0** %		**Percentage of coverage not in student or teacher edition, but covered in the *ancillary material* for Standard II:** **0%**	

Objective 2.1: Examine the effects of density and particle size on the behavior of materials in mixtures.				
a.	Compare the density of various objects to the density of known earth materials.			
b.	Calculate the density of earth materials (e.g., rocks, water, air).			
c.	Observe and describe the sorting of earth materials in a mixture based on density and particle size (e.g., sorting grains of sand of the same size with different densities, sort materials of different particle size with equal densities).			
d.	Relate the sorting of materials that can be observed in streambeds, road cuts, or beaches to the density and particle size of those materials.			
e.	Design and conduct an experiment that provides data on the natural sorting of various earth materials.			
Objective 2.2: Analyze how density affects Earth's structure.				
a.	Compare the densities of Earth's atmosphere, water, crust, and interior layers.			
b.	Relate density to the relative positioning of Earth's atmosphere, water, crust, and interior.			
c.	Model the layering of Earth's atmosphere, water, crust, and interior due to density differences.			
d.	Distinguish between models of Earth with accurate and inaccurate attributes.			
STANDARD III: Students will understand that the organs in an organism are made of cells that have structures and perform specific life				

functions.

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<tr>
<td rowspan="2">**for**</td>
<td colspan="2">**Percentage of coverage in the *student and teacher edition***</td>
<td colspan="3">**Percentage of coverage not in student or teacher edition, but covered in**</td>
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<td colspan="2">**Standard III:** _____ **100** **%**</td>
<td colspan="3">**the *ancillary material* for Standard III:** _____ **100%**</td>
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<td colspan="2">**OBJECTIVES & INDICATORS**</td>
<td>**Coverage in *Student Edition(SE)* and *Teacher Edition (TE)* (pg #'s, etc.)**</td>
<td>**Coverage in *Ancillary Material* (titles, pg #'s, etc.)**</td>
<td>*Not covered in TE, SE or ancillaries* ✔</td>
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<td colspan="2">**Objective 3.1:** Observe and describe cellular structures and functions.</td>
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<td>**a.**</td>
<td>Use appropriate instruments to observe, describe, and compare various types of cells (e.g., onion, diatoms).</td>
<td>**SE/TE:** 50-57, 226, 236</td>
<td>**TR:** GR) 31-33 1AIO) 128-135</td>
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<td>**b.**</td>
<td>Observe and distinguish the cell wall, cell membrane, nucleus, chloroplast, and cytoplasm of cells.</td>
<td>**SE/TE:** 60-67, 250-251, 469, 498, 628, 32G-H</td>
<td>**TR:** GR) 34-35, 123-124, 188 L) 18-23; 1AIO) 137-141
TECH: T) LS17, 18, 62, 64, 65, 66, 71, 181; Active Art 65, 251</td>
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<td>**c.**</td>
<td>Differentiate between plant and animal cells based on cell wall and cell membrane.</td>
<td>**SE/TE:** 61, 66, 102, 250-251, 469</td>
<td>**TR:** GR) 34-36, 104-105 1AIO) 36, 207
TECH: T) 17, 18, 71 ISCC20, Active Art 251</td>
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<td>**d.**</td>
<td>Model the cell processes of diffusion and osmosis and relate this motion to the motion of particles.</td>
<td>**SE/TE:** 82-84, 85</td>
<td>**TR:** GR) 42-43, 105, 207, 228 L) 18-23; 1AIO) 181-185, 212-218, 219-221
TECH: T) LS22, 23, 24 Ispa30, SCILinks 257</td>
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<td>**e.**</td>
<td>Gather information to report on how the basic functions of organisms are carried out within cells (e.g., extract energy from food, remove waste, produce their own food).</td>
<td>**SE/TE:** 51, 64-65, 67, 81, 83, 84, 85, 86-94, 228-229, 232, 251-252, 375, 469, 471, 546-547, 569, 629, 649, 671, 72 H-J</td>
<td>**TR:** GR) 34-36, 44-49, 50-53, 63-66, 104-105, 190, 189, 207, 234-235, 240, 252; 1AIO) 172-177, 187, 191, 192, 194, 201, 225, 270, 275, 276 2AIO) 327 3AIO) 96, 108, 118, 167, 212, 236, 270, 277, 413
TECH: T) LS27, 29, 31, 32, 39, 41, 113, 117, 119, 125,</td>
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			126, 143, 165, 167, 175, 177, 182, 185, 213; Active Art 88, 99, 135, 359, 384, 408, 477, 571, 601; Sci Links 92, 93, 370, 517 Go Online 628	
Objective 3.2: Identify and describe the function and inter-dependence of various organs and tissues.				
a.	Order the levels of organization from simple to complex (e.g., cell, tissue, organ, system, organism).	**SE/TE:** 67, 295, 468, 707, 709	**TR:** GR) 36, 124, 187-190, 281; 3AIO) 32, 37, 4AIO) 51 **TECH:** T) LS90, 202	
b.	Match a particular structure to the appropriate level (e.g., heart to organ, cactus to organism, muscle to tissue).	**SE/TE:** 67, 71, 263, 295, 470, 471	**TR:** GR) 189, 195-196, 270-271, 279 3AIO) 37, 48 **TECH:** T) LS153, 159 Sci Links 472 Go Online 485	
c.	Relate the structure of an organ to its component parts and the larger system of which it is a part.	**SE/TE:** 34, 67, 85, 270, 255, 237, 251, 264, 267, 268, 269, 270, 275, 277, 279, 295, 304, 379, 389, 470, 490, 581, 633, 669	**TR:** GR) 117, 99, 91, 194, 214-215, 252, 254-256, 258; L) 179-182 2AIO) 180 3AIO) 59, 218, 234, 412 **TECH:** T) LS62, 64, 65, 66, 69, 74, 75, 77, 78, 81, 83, 94, 99, 105, 107, 110, 114, 139, 141, 145, 157, 161, 184, 188, 187, 192, 195, 196 Sci Links 493 Active Art 277, 359, 304, 536; Go Online 220, 526	
d.	Describe how the needs of organisms at the cellular level for food, air, and waste removal are met by tissues and organs (e.g., lungs provide oxygen to cells, kidneys remove wastes from cells).	**SE/TE:** 34, 38, 39, 40, 51, 67, 69, 81, 85, 88-89, 91-94, 101, 132-135, 219, 228-229, 232, 237, 296, 469, 600-601	**TR:** GR) 34-37, 42-49, 104-105, 124-125, 197-198, 219, 228, 234, 240-243; 1AIO) 115 3AIO) 246-248, 338 4AIO) 122 **TECH:** T) LS59, 141, 153, 166, 172, 197; Active Art 477, 671, 633 Sci Links 549, 677	
STANDARD IV: Students will understand that offspring inherit traits that make them more or less suitable to survive in the environment.				
Percentage of coverage in the _student and teacher edition_		**Percentage of coverage not in student or teacher edition, but**		

for Standard IV: _____100 %	covered in the *ancillary material* for Standard IV: _____100%	

OBJECTIVES & INDICATORS	**Coverage in *Student Edition(SE)* and *Teacher Edition (TE)* (pg #'s, etc.)**	**Coverage in *Ancillary Material* (titles, pg #'s, etc.)**	*Not covered in TE, SE or ancillaries* ✔
Objective 4.1: Compare how sexual and asexual reproduction passes genetic information from parent to offspring.			
a. Distinguish between inherited and acquired traits.	**SE/TE:** 110, 150	**TR:** GR) 69-73 1AIO) 240-242	
b. Contrast the exchange of genetic information in sexual and asexual reproduction (e.g., number of parents, variation of genetic material).	**SE/TE:** 111, 126-127, 220-221	**TR:** GR) 61-62, 92-93 1AIO) 280-283 **TECH:** T) LS60, 61 Sci Links 677	
c. Cite examples of organisms that reproduce sexually (e.g., rats, mosquitoes, salmon, sunflowers) and those that reproduce asexually (e.g., hydra, planaria, bacteria, fungi, cuttings from house plants).	**SE/TE:** 111, 147, 220-221, 234, 238, 252, 254, 255, 257-259, 262-263, 217, 274, 278, 297, 305, 309, 315, 317, 358, 376, 383, 392, 411, 424-425	**TR:** GR) 92-93, 99, 106, 108, 116-117, 125, 126, 129, 134, 146; 1AIO) 268 2AIO) 42, 49, 57, 61, 96, 109 **TECH:** T) LS45, 72, 82, 84, 96, 98, 108, 116; Active Art 277 Sci Links 383, 241, 337	
d. Compare inherited structural traits of offspring and their parents.	**SE/TE:** 116-117, 153-154, 615	**TR:** GR) 69-71 L) 30-33, 38-44; 1AIO) 248, 249, 258, 259, 346, 387 **TECH:** T) LS47 Active Art 153	
Objective 4.2: Relate the adaptability of organisms in an environment to their inherited traits and structures.			
a. Predict why certain traits (e.g., structure of teeth, body structure, coloration) are more likely to offer an advantage for survival of an organism.	**SE/TE:** 152, 158, 175, 232, 254, 398, 406-407, 412-413, 635, 638, 722, 727, 799	**TR:** GR) 78, 169-171, 284 L) 109-116, 197-201; 1AIO) 248, 249, 260-262, 312, 313, 318, 332-339, 378; 2AIO) 335 **TECH:** eie, web code 10 Go Online 732	
b. Cite examples of traits that provide an advantage for	**SE/TE:** 137, 150, 158, 161, 174-	**TR:** GR) 81, 105, 160-161,	

			Coverage in Student Edition(SE) and Teacher Edition (TE) (pg #'s, etc.)	Coverage in Ancillary Material (titles, pg #'s, etc.)	Not covered in TE, SE or ancillaries ✔
		survival in one environment but not other environments.	175, 176, 180-181, 251, 254, 297, 337, 351, 370-371, 380, 386, 406-407, 451, 724, 726, 795	163, 313-315 L) 50-53, 98-103; 1AIO) 20, 284-286, 319 2AIO) 102, 137, 298-302, 318, 309, 379 4AIO) 21, 71, 77, 115, 128 **TECH:** T) LS121 Active Art 715 Sci Link 742, 769	
	c.	Cite examples of changes in genetic traits due to natural and manmade influences (e.g., mimicry in insects, plant hybridization to develop a specific trait, breeding of dairy cows to produce more milk).	**SE/TE:** 137, 158, 161, 179, 176, 178, 437, 727, 795	**TR:** GR) 74-75, 314 1AIO) 326, 327 **TECH:** T) LS42, 49	
	d.	Relate the structure of organs to an organism's ability to survive in a specific environment (e.g., hollow bird bones allow them to fly in air, hollow structure of hair insulates animals from hot or cold, dense root structure allows plants to grow in compact soil, fish fins aid fish in moving in water).	**SE/TE:** 175, 224, 254, 178, 368, 379, 380, 391, 406-407, 408, 409, 412-413, 472, 635, 638, 724, 727, 796-797	**TR:** GR) 107, 110, 112-114, 149, 174-175, 190; 2AIO) 187, 212, 256, 386, 387, 388 **TECH:** T) LS124 Active Art 445, 715 Go Online 419	

STANDARD V: Students will understand that structure is used to develop classification systems.

Percentage of coverage in the *student and teacher edition* for Standard V: <u>__100__</u> %	Percentage of coverage not in student or teacher edition, but covered in the *ancillary material* for Standard V: <u>__85%__</u>

OBJECTIVES & INDICATORS	Coverage in *Student Edition(SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✔
Objective 5.1: Classify based on observable properties.			
a. Categorize nonliving objects based on external structures (e.g., hard, soft).	**SE/TE:** 33, 34		
b. Compare living, once living, and nonliving things.	**SE/TE:** 533, 210-211, 183-187, 704	**TR:** GR) 23-26, 280 **TECH:** T) LS70	

c.	Defend the importance of observation in scientific classification.	**SE/TE:** 10, 35, 78, 183, 272, 348-349, 360, 380, 426-427, 580, 701, 745, 783	**TR:** GR) 80, 167 2AIO) 179 **TECH:** Sci Links 370
d.	Demonstrate that there are many ways to classify things.	**SE/TE:** 10, 42, 43, 47, 182, 380, 477, 580, 701	**TR:** L) 207-210 1AIO) 126
Objective 5.2: Use and develop a simple classification system.			
a.	Using a provided classification scheme, classify things (e.g., shells, leaves, rocks, bones, fossils, weather, clouds, stars, planets).	**SE/TE:** 44, 46, 47, 52, 219, 239, 262, 298-299, 300, 307, 331, 377, 412-413, 426-427, 722, 728, 741, 743	**TR:** GR) 107, 115, 126, 138, 141, 150, 156-157; 1AIO) 35 2AIO) 47, 240, 395 4AIO) 19-20 **TECH:** T) LS56, 57 Sci Links 370
b.	Develop a classification system based on observed structural characteristics.	**SE/TE:** 13, 42, 44, 46, 47, 172, 182, 398-399	**TR:** L) 11-13 1AIO) 146-148, 149-151, 154
c.	Generalize rules for classification.	**SE/TE:** 44-49	**TR:** GR) 28-30 1AIO) 125 **TECH:** T) LS13
d.	Relate the importance of classification systems to the development of science knowledge.	**SE/TE:** 10, 43, 49, 45, 101, 130, 253, 477, 567	**TR:** GR) 106, 293 2AIO) 271 4AIO) 140
e.	Recognize that classification is a tool made by science to describe perceived patterns in nature.	**SE/TE:** 43, 101, 182, 185-187, 298, 398-399, 412-413, 728	**TR:** GR) 80-81, 126, 141-146, 293-295
Objective 5.3: Classify organisms using an orderly pattern based upon structure.			
a.	Identify types of organisms that are not classified as either plant or animal.	**SE/TE:** 47, 48, 210-211, 217-219, 227-235, 236-237, 740	**TR:** GR) 88-89, 91-92, 94-97, 98-100 L) 59-62; 2AIO) 32, 54, 73-75 **TECH:** T) LS 60, 61, 62 Active Art 213, 228; Go Online 220 Sci Links 241
b.	Arrange organisms according to kingdom (i.e., plant, animal, monera, fungi, protist).	**SE/TE:** 47-49, 227, 236	**TR:** GR) 29-30
c.	Use a classification key or field guide to identify organisms.	**SE/TE:** 46, 728	**TR:** 2AIO) 47, 250 **TECH:** Go Online 316 Sci

			Links 272	
d.	Report on changes in classification systems as a result of new information or technology.	**SE/TE:** 44, 45		